



Model Number

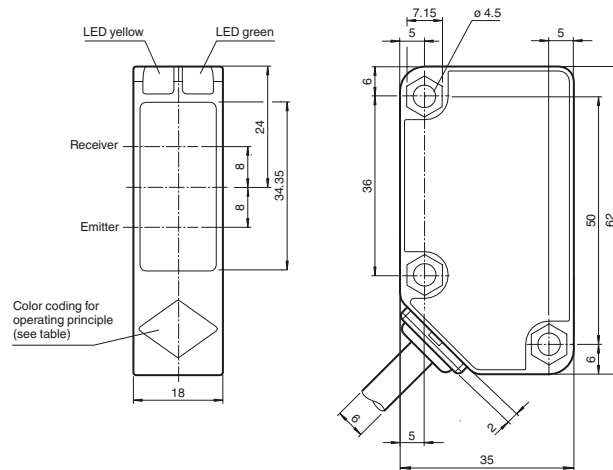
RL31-54/115/136

Retroreflective sensor
with 4-pin, M12 x 1 connector

Features

- Compact and stable housing
- Glare protected with polarization filter
- Highly visible LED
- Powerful push-pull output
- Protection class II

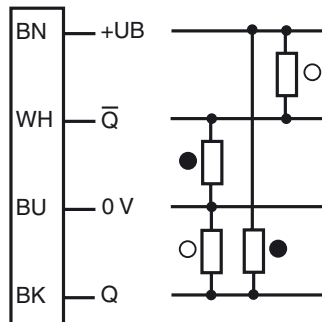
Dimensions



Operating principle	color
Retroreflective sensor with polarisation filter	green
Retroreflective sensor	blue
Diffusive mode sensor	white
Thru -beam sensor	grey
Diffusive mode sensor with background suppression	red

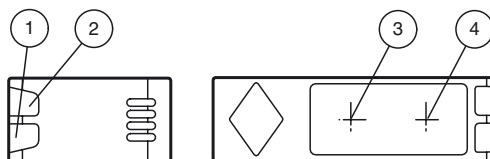
Electrical connection

Option:



○ = Light on
● = Dark on

Indicators/operating means



1	Operating display	green
2	Signal display	yellow
3	Emitter	
4	Receiver	

Technical data**General specifications**

Effective detection range	0 ... 9000 mm
Reflector distance	20 ... 9000 mm
Threshold detection range	12 m
Reference target	reflector C110-2
Light source	LED
Light type	modulated visible red light , 630 nm
Polarization filter	yes
Diameter of the light spot	approx. 200 mm at a distance of 6 m
Angle of divergence	3 °
Ambient light limit	50000 Lux ; according EN 60947-5-2

Functional safety related parameters

MTTF _d	920 a
Mission Time (T _M)	20 a
Diagnostic Coverage (DC)	0 %

Indicators/operating means

Operation indicator	LED green: power on
Function indicator	LED yellow: 1. LED lit constantly: signal > 2 x switching point (function reserve) 2. LED flashes: signal between 1 x switching point and 2 x switching point 3. LED off: signal < switching point

Electrical specifications

Operating voltage	U _B	10 ... 30 V DC
Ripple		10 %
No-load supply current	I ₀	≤ 20 mA

Output

Switching type	dark on	
Signal output	2 push-pull (4 in 1) outputs, short-circuit protected, reverse polarity protected	
Switching voltage	max. 30 V DC	
Switching current	max. 100 mA	
Voltage drop	U _d	≤ 1.5 V
Switching frequency	f	≤ 500 Hz
Response time	≤ 1 ms	

Conformity

Product standard	EN 60947-5-2
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Ambient conditions

Ambient temperature	-30 ... 55 °C (-22 ... 131 °F)
Storage temperature	-40 ... 70 °C (-40 ... 158 °F)

Mechanical specifications

Housing width	18 mm
Housing height	62 mm
Housing depth	35 mm
Degree of protection	IP67
Connection	2 m fixed cable
Material	
Housing	plastic
Optical face	PMMA
Mass	133 g

Approvals and certificates

Protection class	II , rated insulation voltage ≤ 250 V AC with pollution degree 1-2 according to IEC 60664-1 Output circuit basis insulation of input circuit according to EN 50178, rated insulation voltage 240 V AC
UL approval	cULus Listed, Class 2 Power Source, Type 1 enclosure
CCC approval	CCC approval / marking not required for products rated ≤ 36 V

Accessories**OMH-RL31-01**

Mounting bracket

OMH-RL31-02

Mounting bracket narrow

OMH-RL31-03

Mounting bracket narrow

OMH-RL31-04

Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm

OMH-RL31-05

Mounting bracket for mounting on flat surfaces with 2 M4 screws

OMH-RL31-06

Stainless steel mounting bracket with adjustable half clamp on the side

Other suitable accessories can be found at www.pepperl-fuchs.com

Curves/Diagrams

